

AMENDMENTS TO THE CLAIMS:

The listing of claims set forth below will replace all prior versions of claims in the application:

Amend claim 1; cancel, without prejudice, claims 7-9; and add new claims 19 and 20.

LISTING OF THE CLAIMS

1. (Currently Amended) A lead-free solder alloy selected from the group consisting of:

(i) an alloy consisting essentially of including at least about 90% Sn, 0.2 to 5.0% Cu, and 0.05 to 5.0% Bi;

(ii) an alloy consisting essentially of including at least about 75% Sn, 0.5 to 7.0% Cu, 0.05 to 18% Sb;

~~(iii) an alloy including at least about 67% Sn, 3 to 15% Ag, and 0.01 to 18% Sb;~~

(iv) an alloy consisting essentially of including at least about 78% Sn, 0.8 to 7.0% Cu, and 4 to 15% Ag;

(v) an alloy consisting essentially of including at least about 96% Sn, and at least one of 0.01 to 2.0% Ni, and 0.01 to 2.0% Co;

(vi) an alloy consisting essentially of including at least about 90% Sn, 0.05 to 5.0% Bi, and 0 to 5.0% Sb; and

(vii) an alloy consisting essentially of including at least about 90% Sn, 0.2 to 0.9% Cu, and 0.1 to 5.0% Bi.

2. (Original) The lead-free solder alloy of claim 1 having a liquidus melting temperature greater than 215°C.

3. (Original) The lead-free solder alloy of claim 1, wherein the alloy is alloy (i) and includes about 90 to 99% Sn, 0.2 to 5.0% Cu, and 0.05 to 5.0% Bi.

4. (Original) The lead-free solder alloy of Claim 3, wherein the solder alloy composition comprises about 96.0% Sn, 3.0% Cu, and 1.0% Bi.

5. (Original) The lead-free solder alloy of claim 1, wherein the alloy is alloy (ii) and includes about 75 to 99% Sn, 0.5 to 7.0% Cu, and 0.05 to 18% Sb.

6. (Original) The lead-free solder alloy of Claim 5, wherein the solder alloy composition comprises about 82% Sn, 3% Cu, and 15% Sb.

7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Original) The lead-free solder alloy of claim 1, wherein the alloy is alloy (iv) and includes about 78 to 96% Sn, 0.8 to 7.0% Cu, and 4 to 15% Ag.
11. (Original) The lead-free solder alloy of Claim 10, wherein the solder alloy composition comprises about 87% Sn, 3% Cu, and 10% Ag.
12. (Original) The lead-free solder alloy of claim 1, wherein the alloy is alloy (v) and includes about 96 to 99% Sn, and at least one of 0.01 to 2.0% Ni, and 0.01 to 2% Co.
13. (Original) The lead-free solder alloy of Claim 12, wherein the solder alloy composition comprises about 99.3% Sn, 0.2% Ni, and 0.5% Co.
14. (Original) The lead-free solder alloy of claim 1, wherein the alloy is alloy (vi) and includes about 90 to 99% Sn, 0.05 to 5.0% Bi, and 0 to 5.0% Sb.
15. (Original) The lead-free solder alloy of Claim 14, wherein the solder alloy composition comprises about 98.5% Sn, 1% Bi, and 0.5% Sb.
16. (Original) The lead-free solder alloy of claim 1, wherein the alloy is alloy (vii) and includes about 90 to 99% Sn, 0.2 to 0.9% Cu, and 0.1 to 5.0% Bi.
17. (Original) The lead-free solder alloy of claim 16, wherein the solder alloy composition comprises about 98.3% Sn, 0.7% Cu, and 1% Bi.
18. (Original) The lead-free solder alloy of claim 16, wherein the solder alloy exhibits a tensile strength and fatigue life at 0.2% strain greater than a Sn/Cu eutectic composition of 99.3Sn/0.7Cu.
19. (New) A lead-free solder alloy having improved tensile strength, and fatigue life, said alloy consisting essentially of about 93.5% Sn, about 5% Ag, and about 1.5% Sb.

20. (New) A lead-free solder alloy having improved tensile strength, and fatigue life, said alloy consisting essentially of at least about 67% Sn, from about 3 to 15% Ag, and from about 0.01 to less than 5% Sb.